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# THE PUMA OR AMERICAN LION.

(*Felis concolor.* Linnæus.)

By L. L. DYCHE, University of Kansas, Lawrence.

Read before the Academy, at Topeka, December 31, 1904.

IT appears that the first mention of the American lion was made by Christopher Columbus. He speaks of *leones* (lions) among other things that he saw on the coast of Honduras and Nicaragua during his fourth voyage, in 1502.[1]

The first mention I have been able to find of the animal being in Kansas is in Zebulon Pike's notes on his journey from St. Louis through the interior of Louisiana[2] and the northwest provinces of Spain.

I find the following in Pike's journal for Friday, September 12, 1806: "Commenced our march at seven o'clock, and passed some very rough flint hills; my feet blistered, and were very sore. Standing on a hill, I beheld in one view below me buffaloes, elk, deer, cabrie (antelope), and panthers."

When this was written Lieutenant Pike was camped, as near as it is possible for me to make it out by comparison of maps, on the head waters of the Walnut river, in the northern part of Butler county. He continues to speak of the great quantities of game seen in this locality. The "Indians," he continues, "alleging it was the Kansas hunting-ground, said they would destroy all the game they possibly could."[3]

From this point Lieutenant Pike continued his journey northwest through Marion and Saline counties, passing through or very near the localities where Florence, Marion and Salina are located.

While making this journey, Lieutenant Pike says: "On the march we are continually passing through herds of buffaloes, elks, and cabrie (antelopes). I prevented the men shooting at the game, not merely because of scarcity of ammunition, but, as I conceived, the laws of morality also forbade it."

In volume XVI, page 278, of the reports of this society, Mr. J. R. Mead says: "In the fall of 1859 the writer noticed skeletons of buffalo calves, some recently killed and partly eaten, in the heavily timbered bend of the Solomon river a few miles above its mouth.

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[1] See True's article on the puma in National Museum Report, 1888-'89, p. 600.

[2] Kansas was then a part of the district of Louisiana.

[3] These Indians who accompanied Lieutenant Pike were from Missouri

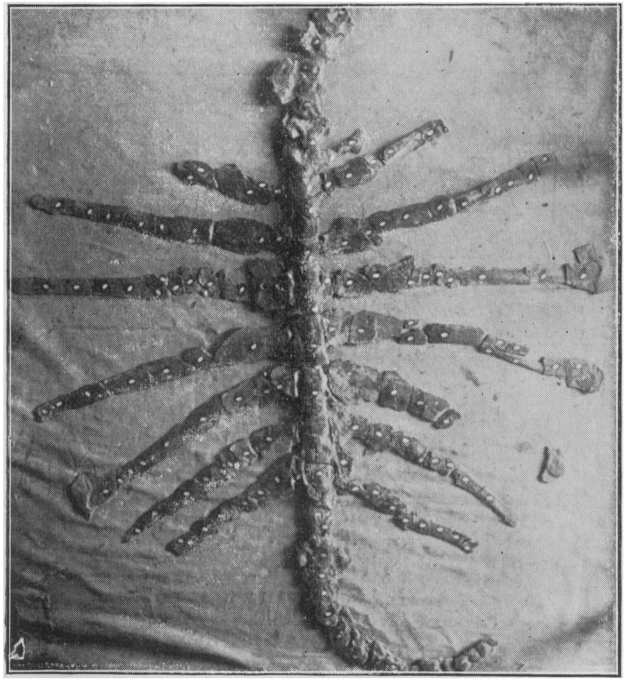

**Plate XVIII.**—*Protostega gigas* Cope, showing the Spinal Column and Ribs.

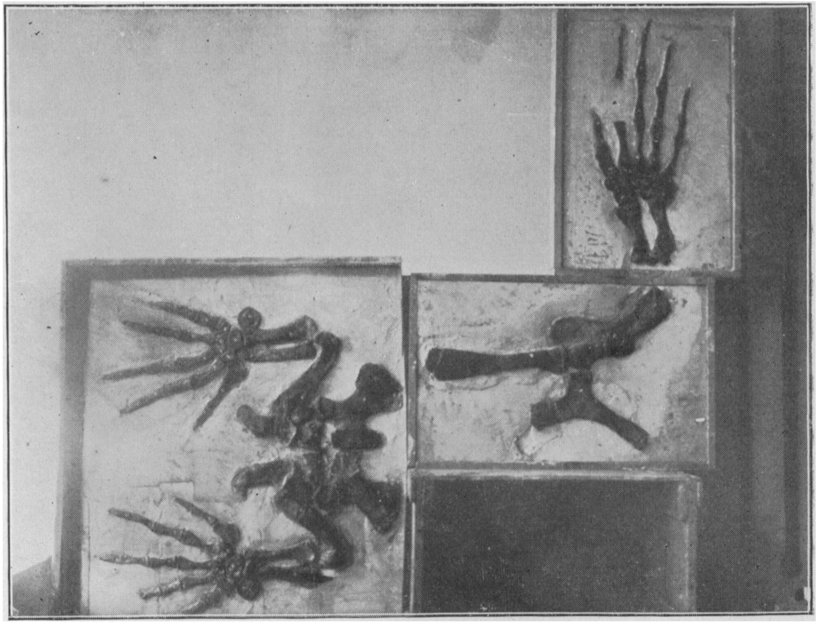

**Plate XIX.**—*Protostega gigas* Cope, showing the Arches and Limbs.

Later the Sac and Fox Indians on their annual fall hunt camped in that bend, and with the aid of their dogs killed an immense panther."

A little farther on, Mr. Mead says: "In 1865 I saw one on the White Water, in Butler county, close to the Means ranch, where Towanda now stands." This is only a few miles, apparently not more than fifteen or twenty, from the place where Lieutenant Pike saw a panther some sixty years before.

In volume IV of the Transactions of this society, bearing the date of a meeting held October 12 to 13., Prof. M. V. B. Knox, of Baker University, reported a "specimen taken about nine years ago at Valley Falls,[4] by Mr. Whitman, and identified by him."

In the Bulletin of the Washburn College Laboratory of Natural History, volume I, No. 2, page 42, Professor Cragin, in his notes on some Kansas mammals, says: "Seven specimens (referring to American lions) are known to the writer to have been observed (three of them killed and the fourth, a cub, captured alive) in Harper, Barber and Comanche counties during the prolonged cold of December[5] and three of these have come under his personal observation." No definite date or locality is given for any of these specimens.

In volume VI, page 56, of the proceedings of this Academy, Mr. A. B. Baker, of Wa Keeney, Kan., published a list of the mammals of western Kansas, but does not mention the American lion.

On Monday afternoon, August 15, 1904, Mr. William Applebaugh and Mr. J. H. Spratt, of Hays City, Ellis county, Kansas, killed an American lion while out hunting near that city. This lucky find was made in a ravine about one-half mile east of John Roth's place and just north of Catherine.

This latter-named place is a small town located on Victoria creek, and about seven miles northeast of Hays City. The animal, when first discovered by Mr. Applebaugh and his bird-dog in a thicket of bushes and vines, was thought to be a coyote. However, the mistake was soon discovered when a real American lion emerged from the underbrush. Mr. Applebaugh and Mr. Spratt succeeded in killing the animal at a few yards distance, by shooting it in the side with No. 8 bird-shot.

Twenty years have passed since Professor Cragin reported the animals from the southern counties of the state. I know of no record of an animal being killed during this intervening period.

The question naturally suggests itself, Where did it come from? The animal was not seen or heard of in the neighborhood of Hays City until it was found and killed. Though a young animal, only about half-grown, it can scarcely be considered as a native-born Kansan; it must rather be looked upon as a mere straggler. It may have come from the south. Ellis county is over a hundred miles directly north of Comanche county, where animals were reported twenty years ago. It may have come from the west—even as far west as the Rocky Mountains. In either case, it would find an abundance of food on the plains, as jack-rabbits and prairie-dogs could be found in plenty almost anywhere. The animal was fat and had its stomach well filled with jack-rabbit meat.

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[4] In Jefferson county, Kansas.

[5] This would be December, 1884, as the report was submitted to the printer in January, 1885.

The lion was sent to the writer in the flesh. This made it possible for me to make a careful study, not only of its general contour, but its anatomy as well.

It weighed, soon after being killed, eighty-eight pounds, and eighty-six a day later, when received at Lawrence by express. It was a young male, apparently not much over a year old.

I submit the following, which will not only show the measurements taken of this lion, but will show how any large animal is measured when it is desired to preserve a record of its size. Such a record is not only of value to general natural history, but it is of especial value to the person who expects to have an animal mounted, or to the person who expects to mount it for museum purposes. Measurements taken before the animal is skinned.

### LENGTHS.

1. Total length, 78.50 inches. Measured from end of nose to end of tail bone in a straight line, when animal is stretched straight at full length.

2. Length of tail, 28.50 inches. Which means the length of the tail bone and does not include length of hair on the tail. To take this measurement, bend the tail up towards the back and hold it straight, at right angles to the body, and measure from point where tail and body meet to end of tail bone.

3. Length of body, 50 inches. This is the distance in a straight line from the end of the nose to the root of the tail.

4. Standing height, 22.50 inches. This measurement is taken by placing the fore leg of the animal in natural position at right angles to the body, and in this particular case with elbow two inches above the bottom of the body or binket. Place the animal's foot at right angles to its legs, and measure from the bottom of the foot in a straight line with a straight stick or rule to a point on the top of the back between the shoulder-blades. This is not an easy measurement to make; it should be taken with great care. The object of the measurement is to get what would be the standing height of the animal when alive, as nearly as it can possibly be determined from the dead body.

5. Head of femur to head of humerus, —— inches. This is the distance from the head of the femur (upper end of upper long bone of the hind leg) to the head of the humerus (upper end of upper long bone of the arm). It is frequently necessary to press the muscles of the animal with the fingers in order to locate the heads of their bones in the joints. Before this measurement is taken the operator should be sure that the shoulder is in natural position. When an animal is dead and lying upon one side, the upper shoulder naturally slips down

and forward. It should be pushed up and back and put in a natural (standing) position as nearly as possible before the measurement is taken.

6. Length from elbow to end of longest toe, 16 inches. Should be measured in a straight line, when the leg is straight.

### WIDTHS AND DIAMETERS.

7. Width of hind quarter, 7.25 inches. This measurement was made from a point two inches above the flank skin straight back to the back part of the hind quarter.

8. Width of hind leg at knee, —— inches. Measured from the front to the back part of the leg at the knee-joint.

9. Width of shoulder, —— inches. Measured from front part to back part of shoulder at a point half-way up from the elbow to the head of the humerus. This measurement can only be taken approximately.

10. Width of neck (transverse diameter), 4.75 inches. This measurement is made at the middle of the neck with calipers.

11. Width (transverse diameter) of the shoulders, 9.50 inches. From head of humerus on right side to head of humerus on left side.

12. Width (transverse diameter) of hind quarters, 9.50 inches. This measurement is taken by placing the calipers so that the points will rest over the heads of the two femur bones.

13. Width (transverse diameter) of abdomen, 6 inches. This measurement was taken while the animal was lying flat on the floor. It might be a little greater in life.

14. Depth of chest, 10.25 inches (the distance from top of back to bottom of chest). This measurement is taken just behind the shoulder-blades. It can be made with a straight stick or rule, but large calipers are better.

15. Depth of body, 11.75 inches. This is the distance from the top of the back to the bottom of the dupert part of the abdomen.

### CIRCUMFERENCES.

These measurements are usually made with a good stout cord that does not stretch, or with a stout rope. An ordinary cloth tape is easily spoiled by the blood of the animals measured. Cheap cloth tape lines are usually of very uncertain length. The cord or tape should go straight around the animal, or part to be measured, and should be pulled tight, but not tight enough to make a crease or depression in the flesh of the animal. I usually refer to these measurements, when speaking to my students, as light-line measurements.

16. Circumference of head half-way between ear and eye, 18 inches.
17. Circumference of neck half-way between ear and shoulder, 16 inches.
18. Circumference of body just behind fore leg, 27 inches.
19. Circumference of body around longest part of abdomen, 30 inches.
20. Circumference of hind leg at patella or knee-joint, 13.50 inches.
21. Circumference of tail at base, 7 inches.
22. Circumference of tail taken at middle, 4.50 inches.

### SPECIAL MEASUREMENTS.

23. Anterior corner of eye, measured from the bone to end of nose, 3 inches.
24. Anterior corner of eye to the center of hole in ear, 4.50 inches.

In making the above measurements three pairs of calipers, large, small, and those of medium size, were used. No account was taken of the hair in any measurements. The measurements should represent the animal without any hair on it.